

act to #8

SEQUENCE LISTING

TO 510

<110> Elledge, Stephen J.
Sanchez, Yolanda

<120> MAMMALIAN CHECKPOINT GENES AND PROTEINS

<130> 120541-1013

<140> 09/488,364

<141> 2000-01-12

<160> 15

<170> PatentIn Ver. 2.0

<210> 1

<211> 476

<212> PRT

<213> Homo sapiens

<400> 1

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Glu Ala Val Ala Val Lys Ile Val Asp Met Lys Arg Ala Val Asp Cys
35 40 45

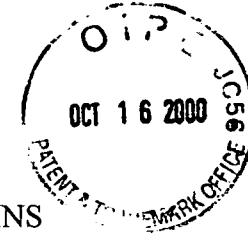
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50 55 60

Glu Asn Val Val Lys Phe Tyr Gly His Arg Arg Glu Gly Asn Ile Gln
65 70 75 80

Tyr Leu Phe Leu Glu Tyr Cys Ser Gly Gly Glu Leu Phe Asp Arg Ile
85 90 95

Glu Pro Asp Ile Gly Met Pro Glu Pro Asp Ala Gln Arg Phe Phe His
100 105 110

Gln Leu Met Ala Gly Val Val Tyr Leu His Gly Ile Gly Ile Thr His
115 120 125



RECEIVED

OCT 23 2000

TECH CENTER 1600/2900

RECEIVED

Arg Asp Ile Lys Pro Glu Asn Leu Leu Leu Asp Glu Arg Asp Asn Leu
130 135 140

OCT 23 2000

Lys Ile Ser Asp Phe Gly Leu Ala Thr Val Phe Arg Tyr Asn Asn Arg
145 150 155 160

TECH CENTER 1600/2900

Glu Arg Leu Leu Asn Lys Met Cys Gly Thr Leu Pro Tyr Val Ala Pro
165 170 175

Glu Leu Leu Lys Arg Arg Glu Phe His Ala Glu Pro Val Asp Val Trp
180 185 190

Ser Cys Gly Ile Val Leu Thr Ala Met Leu Ala Gly Glu Leu Pro Trp
195 200 205

Asp Gln Pro Ser Asp Ser Cys Gln Glu Tyr Ser Asp Trp Lys Glu Lys
210 215 220

Lys Thr Tyr Leu Asn Pro Trp Lys Lys Ile Asp Ser Ala Pro Leu Ala
225 230 235 240

Leu Leu His Lys Ile Leu Val Glu Asn Pro Ser Ala Arg Ile Thr Ile
245 250 255

RECEIVED

OCT 19 2000

TECH CENTER 1600/2900

Pro Asp Ile Lys Lys Asp Arg Trp Tyr Asn Lys Pro Leu Lys Lys Gly
260 265 270

Ala Lys Arg Pro Arg Val Thr Ser Gly Gly Val Ser Glu Ser Pro Ser
275 280 285

Gly Phe Ser Lys His Ile Gln Ser Asn Leu Asp Phe Ser Pro Val Asn
290 295 300

Ser Ala Ser Ser Glu Glu Asn Val Lys Tyr Ser Ser Ser Gln Pro Glu
305 310 315 320

Pro Arg Thr Gly Leu Ser Leu Trp Asp Thr Ser Pro Ser Tyr Ile Asp
325 330 335

Lys Leu Val Gln Gly Ile Ser Phe Ser Gln Pro Thr Cys Pro Asp His
340 345 350

Met Leu Leu Asn Ser Gln Leu Leu Gly Thr Pro Gly Ser Ser Gln Asn
355 360 365

Pro Trp Gln Arg Leu Val Lys Arg Met Thr Arg Phe Phe Thr Lys Leu
370 375 380

Asp Ala Asp Lys Ser Tyr Gln Cys Leu Lys Glu Thr Cys Glu Lys Leu
385 390 395 400

Gly Tyr Gln Trp Lys Lys Ser Cys Met Asn Gln Val Thr Ile Ser Thr
405 410 415

Thr Asp Arg Arg Asn Asn Lys Leu Ile Phe Lys Val Asn Leu Leu Glu
420 425 430

Met Asp Asp Lys Ile Leu Val Asp Phe Arg Leu Ser Lys Gly Asp Gly
435 440 445

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<212> PRT
<213> Mus musculus

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Gln Ala Val Ala Val Lys Ile Val Asp Met Lys Arg Ala Ile Asp Cys
35 40 45

Pro Gln Asn Ile Lys Lys Glu Ile Cys Ile Asn Lys Met Leu Ser His
50 55 60

Glu Asn Val Val Lys Phe Tyr Gly His Arg Arg Glu Gly His Ile Gln
65 70 75 80

Tyr Leu Phe Leu Glu Tyr Cys Ser Gly Gly Glu Leu Phe Asp Arg Ile
85 90 95

Glu Pro Asp Ile Gly Met Pro Glu Gln Asp Ala Gln Arg Phe Phe His
100 105 110

Gln Leu Met Ala Gly Val Val Tyr Leu His Gly Ile Gly Ile Thr His
115 120 125

Arg Asp Ile Lys Pro Glu Asn Leu Leu Leu Asp Glu Arg Asp Asn Leu
130 135 140

Lys Ile Ser Asp Phe Gly Leu Ala Thr Val Phe Arg His Asn Asn Arg
145 150 155 160

Glu Arg Leu Leu Asn Lys Met Cys Gly Thr Leu Pro Tyr Val Ala Pro
165 170 175

Glu Leu Leu Lys Arg Lys Glu Phe His Ala Glu Pro Val Asp Val Trp
180 185 190

Ser Cys Gly Ile Val Leu Thr Ala Met Leu Ala Gly Glu Leu Pro Trp
195 200 205

Asp Gln Pro Ser Asp Ser Cys Gln Glu Tyr Ser Asp Trp Lys Glu Lys
210 215 220

Lys Thr Tyr Leu Asn Pro Trp Lys Ile Asp Ser Ala Pro Leu Ala
225 230 235 240

Leu Leu His Lys Ile Leu Val Glu Thr Pro Ser Ala Arg Ile Thr Ile
245 250 255

Pro Asp Ile Lys Lys Asp Arg Trp Tyr Asn Lys Pro Leu Asn Arg Gly
260 265 270

Ala Lys Arg Pro Arg Ala Thr Ser Gly Gly Met Ser Glu Ser Ser Ser
275 280 285

Gly Phe Ser Lys His Ile His Ser Asn Leu Asp Phe Ser Pro Val Asn
290 295 300

Asn Gly Ser Ser Glu Glu Thr Val Lys Phe Ser Ser Ser Gln Pro Glu
305 310 315 320

Pro Arg Thr Gly Leu Ser Leu Trp Asp Thr Gly Pro Ser Asn Val Asp
325 330 335

Lys Leu Val Gln Gly Ile Ser Phe Ser Gln Pro Thr Cys Pro Glu His
340 345 350

Met Leu Val Asn Ser Gln Leu Leu Gly Thr Pro Gly Phe Ser Gln Asn
355 360 365

Pro Trp Gln Arg Leu Val Lys Arg Met Thr Arg Phe Phe Thr Lys Leu
370 375 380

Asp Ala Asp Lys Ser Tyr Gln Cys Leu Lys Glu Thr Phe Glu Lys Leu
385 390 395 400

Gly Tyr Gln Trp Lys Lys Ser Cys Met Asn Gln Val Thr Val Ser Thr
405 410 415

Thr Asp Arg Arg Asn Asn Lys Leu Ile Phe Lys Ile Asn Leu Val Glu
420 425 430

Met Asp Glu Lys Ile Leu Val Asp Phe Arg Leu Ser Lys Gly Asp Gly
435 440 445

Leu Glu Phe Lys Arg His Phe Leu Lys Ile Lys Gly Lys Leu Ser Asp
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Val Val Ser Ser Gln Lys Val Trp Phe Pro Val Thr
465 470 475

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<211> 1761
<212> DNA
<213> Homo sapiens

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gaatagaatt catttgatta ttcttcatg tttgtttagt atctgaattt gaaactcatc 1680
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1761

<210> 4

<211> 1962

<212> DNA

<213> *Mus musculus*

<400> 4

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agctgtgca gtgaaaattg tagacatgaa gcgggccata gactgtccac aaaatattaa 180
gaaagagatc tgcatcaata aaatgttaag ccacgagaat gtagtgaat tctatggcca 240
caggagggaa gccatccatcc agtatcttt tctggagttc tctgtggag gagaacttt 300
tgcataattt gagccagaca tagggatgcc tgaacaagat gctcagaggc tcttcacca 360
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gatcaccatc ccagacatttca agaaagatag atggtacaac aaaccacttca acagaggagc 840
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ggtcaaaagg atgacacgat tccttactaa attggatgcg gacaaatctt accaatgcct 1200
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tgacattttt ctccctagag aagattatct attctgcaaa ctgcaacaa tagttgtga 1560
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aatgtatTTT aattgtatgt aatgcTTgg ggaaaggatg gatcaaattc attaggtatt 1680
tgtccagctg tcttaaattt gtcggattt gaaaccaagt tatgggatac ttgagttgc 1740
cagttttat acccatgttag tagtatctt gaaatggat caaaagcttg ttcatccca 1800
agcaaaatattt tttctctct gcctattaa ttgtaaggat gaataaacac agaccatata 1860
cagttgattt gttcatgaat gaggccagcc acaaaaatgt gtatgttaat gtatgtactg 1920
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<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

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<223> The nucleic acid in this position can be either
a "t" or "c".

<220>

<221> misc_feature

<222> (6)

<223> The nucleic acid in this position can be either
a "t" or "c".

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<221> misc_feature

<222> (13)

<223> The nucleic acid in this position can be either
"t" or "c".

<400> 5

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21

<210> 6

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<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: Synthetic

<400> 6

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17

<210> 7

<211> 476

<212> PRT

<213> Homo sapiens

<400> 7

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Glu Gly Ala Val Gly Glu Val Gln Leu Ala Val Asn Arg Val Thr Glu

20 25 30

Glu Ala Val Ala Val Lys Ile Val Asp Met Arg Arg Ala Val Asp Cys

35 40 45

Pro Glu Asn Ile Lys Lys Glu Ile Cys Ile Asn Lys Met Leu Asn Asn

50 55 60

Glu Asn Val Val Lys Phe Tyr Gly His Arg Arg Arg Glu Gly Asn Ile

65 70 75 80

Gln Tyr Leu Phe Leu Glu Tyr Cys Ser Gly Gly Glu Leu Phe Asp Arg

85 90 95

Ile Glu Pro Asp Ile Gly Met Pro Glu Pro Asp Ala Gln Arg Phe Phe

100 105 110

His Gln Leu Met Ala Gly Val Val Tyr Leu His Gly Ile Gly Ile Thr

115 120 125

His Arg Asp Ile Lys Pro Glu Asn Leu Leu Asp Glu His Asp Asn

130 135 140

Leu Lys Ile Ser Asp Phe Gly Leu Ala Thr Val Phe Arg Tyr Asn Asn

145 150 155 160

3

Arg Glu Arg Leu Leu Asn Lys Met Cys Gly Thr Leu Pro Tyr Val Ala
165 170 175

Pro Glu Leu Leu Lys Arg Arg Glu Phe His Ala Glx Pro Val Asp Val
180 185 190

Trp Ser Cys Gly Ile Val Leu Thr Ala Met Leu Ala Gly Glu Leu Pro
195 200 205

Trp Asp Gln Pro Ser Asp Ser Cys Gln Glu Tyr Ser Asp Trp Lys Glu
210 215 220

Lys Lys Thr Tyr Leu Asn Pro Trp Lys Lys Ile Asp Ser Ala Pro Leu
225 230 235 240

Ala Leu Leu His Lys Ile Leu Val Glu Asn Pro Ser Ala Arg Ile Thr
245 250 255

Ile Pro Asp Ile Lys Lys Asp Arg Trp Tyr Asn Lys Pro Leu Lys Lys
260 265 270

Gly Ala Lys Arg Pro Arg Val Thr Ser Gly Gly Val Ser Glu Ser Pro
275 280 285

Ser Gly Phe Ser Lys His Ile Gln Ser Asn Leu Asp Phe Ser Pro Val
290 295 300

Asn Ser Ala Ser Ser Glu Glu Asn Val Lys Tyr Ser Ser Ser Gln Pro
305 310 315 320

Glu Pro Arg Thr Gly Leu Ser Leu Trp Asp Thr Ser Pro Ser Tyr Ile
325 330 335

Asp Lys Leu Val Gln Gly Ile Ser Phe Ser Gln Pro Thr Cys Pro Asp
340 345 350

His Met Leu Leu Asn Ser Gln Leu Leu Gly Thr Pro Gly Ser Ser Gln
355 360 365

Asn Pro Trp Gln Arg Leu Val Lys Arg Met Thr Arg Phe Phe Thr Lys
370 375 380

Leu Asp Ala Asp Lys Ser Tyr Gln Cys Leu Lys Glu Thr Glu Lys Leu
385 390 395 400

Gly Tyr Gln Trp Lys Lys Ser Cys Met Met Gln Val Thr Ile Ser Thr
405 410 415

Thr Asp Arg Arg Asn Asn Lys Leu Ile Phe Lys Val Asn Leu Leu Glu
420 425 430

Met Asp Asp Lys Ile Leu Val Asp Phe Arg Leu Ser Lys Gly Asp Gly
435 440 445

Leu Glu Phe Lys Arg His Phe Leu Lys Ile Lys Gly Lys Leu Ile Asp
450 455 460

Ile Val Ser Ser Gln Lys Val Trp Leu Pro Ala Thr
465 470 475

<210> 8

<211> 513

<212> PRT

<213> Drosophila melanogaster

<400> 8

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Tyr Gly Glu Val Lys Leu Leu Ile Asn Arg Gln Thr Gly Gly Cys
35 40 45

Gly Met Lys Met Val Asp Leu Lys Lys His Pro Asp Ala Ala Asn Ser
50 55 60

Val Arg Lys Glu Val Cys Ile Gln Lys Met Leu Gln Asp Lys His Ile
65 70 75 80

Leu Arg Phe Phe Gly Lys Arg Ser Gln Gly Ser Val Glu Tyr Ile Phe
85 90 95

Leu Glu Tyr Ala Ala Gly Gly Glu Leu Phe Asp Arg Ile Glu Pro Asp
100 105 110

Val Gly Met Pro Gln His Glu Ala Gln Arg Tyr Phe Thr Gln Leu Leu
115 120 125

Ser Gly Leu Asn Tyr Leu His Gln Arg Gly Ile Ala His Arg Asp Leu
130 135 140

Lys Pro Glu Asn Leu Leu Leu Asp Glu His Asp Asn Val Lys Ile Ser
145 150 155 160

Asp Phe Gly Met Ala Thr Met Phe Arg Cys Lys Gly Lys Glu Arg Leu
165 170 175

Leu Asp Lys Arg Cys Gly Thr Leu Pro Tyr Val Ala Pro Glu Val Leu
180 185 190

Gln Lys Ala Tyr Gln Pro Gln Pro Ala Asp Leu Trp Ser Cys Gly Val
195 200 205

Ile Leu Val Thr Met Leu Ala Gly Glu Leu Pro Trp Asp Gln Pro Ser
210 215 220

Thr Asn Cys Thr Glu Phe Thr Asn Trp Arg Asp Asn Asp His Trp Gln
225 230 235 240

Leu Gln Thr Pro Trp Ser Lys Leu Asp Thr Leu Ala Ile Ser Leu Leu
245 250 255

Arg Lys Leu Leu Leu Ala Thr Ser Pro Gly Thr Arg Leu Thr Leu Glu
260 265 270

Lys Thr Leu Asp His Lys Trp Cys Asn Met Gln Phe Ala Asp Asn Glu
275 280 285

Arg Ser Tyr Asp Leu Val Asp Ser Ala Ala Leu Glu Ile Cys Ser
290 295 300

Pro Lys Ala Lys Arg Gln Arg Leu Gln Ser Ser Ala His Leu Ser Asn
305 310 315 320

Gly Leu Asp Asp Ser Ile Ser Arg Asn Tyr Cys Ser Gln Pro Met Pro
325 330 335

Thr Met Arg Thr Asp Asp Asp Phe Asn Val Arg Leu Gly Ser Gly Arg
340 345 350

Ile Gln Gly Gly Trp Arg Arg Pro Gln Thr Leu Ala Gln Glu Ala Arg
355 360 365

Leu Ser Tyr Ser Phe Ser Gln Pro Ala Leu Leu Asp Asp Leu Leu Leu
370 375 380

Ala Thr Gln Met Asn Gln Thr Gln Asn Ala Ser Gln Asn Tyr Phe Gln
385 390 395 400

Arg Leu Val Arg Arg Met Thr Arg Phe Phe Val Thr Thr Arg Trp Asp
405 410 415

Asp Thr Ile Lys Arg Leu Val Gly Thr Ile Glu Arg Leu Gly Gly Tyr
420 425 430

Thr Cys Lys Phe Gly Asp Asp Gly Val Val Thr Val Ser Thr Val Asp
435 440 445

Arg Asn Lys Leu Arg Leu Val Phe Lys Ala His Ile Ile Glu Met Asp
450 455 460

Gly Lys Ile Leu Val Asp Cys Arg Leu Ser Lys Gly Cys Gly Leu Glu
465 470 475 480

Phe Lys Arg Arg Phe Ile Lys Ile Lys Asn Ala Leu Glu Asp Ile Val
485 490 495

Leu Lys Gly Pro Thr Thr Trp Pro Ile Ala Ile Ala Thr Asn Ser Val
500 505 510

Pro

<210> 9
<211> 483
<212> PRT
<213> *Caenorhabditis elegans*

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Gly Ala Phe Gly Glu Val Leu Leu Ile Val Asn Thr Lys Asn Pro Glu
35 40 45

Val Ala Ala Ala Met Lys Lys Ile Asn Ile Ala Asn Lys Ser Lys Asp
50 55 60

Phe Ile Asp Asn Ile Arg Lys Glu Tyr Leu Leu Gln Lys Arg Val Ser
65 70 75 80

Ala Val Gly His Asp Asn Val Ile Arg Met Ile Gly Met Arg Asn Asp
85 90 95

Pro Gln Phe Tyr Tyr Leu Phe Leu Glu Tyr Ala Asp Gly Gly Glu Leu
100 105 110

Phe Asp Lys Ile Glu Pro Asp Cys Gly Met Ser Pro Val Phe Ala Gln
115 120 125

Phe Tyr Phe Lys Gln Leu Ile Cys Gly Leu Lys Phe Ile His Asp Asn
130 135 140

Asp Val Val His Arg Asp Ile Lys Pro Glu Asn Leu Leu Leu Thr Gly
145 150 155 160

Thr His Val Leu Lys Ile Ser Asp Phe Gly Met Ala Thr Leu Tyr Arg
165 170 175

Asn Lys Gly Glu Glu Arg Leu Leu Asp Leu Ser Cys Gly Thr Ile Pro
180 185 190

Tyr Ala Ala Pro Glu Leu Cys Ala Gly Lys Tyr Arg Gly Pro Pro
195 200 205

Val Asp Val Trp Ser Ser Gly Ile Val Leu Ile Ala Met Leu Thr Gly
210 215 220

Glu Leu Pro Trp Asp Arg Ala Ser Asp Ala Ser Gln Ser Tyr Met Gly
225 230 235 240

Trp Ile Ser Asn Thr Ser Leu Asp Glu Arg Pro Trp Lys Lys Ile Asp
245 250 255

Val Arg Ala Leu Cys Met Leu Arg Lys Ile Val Thr Asp Lys Thr Asp
260 265 270

Lys Arg Ala Thr Ile Glu Gln Ile Gln Ala Asp Pro Trp Tyr Gln His
275 280 285

Asn Phe Gly Gln Val Glu Thr Pro Asn Gly Arg Pro Leu Lys Arg Ala
290 295 300

Arg Asn Asn Asp Glu Asn Ile Thr Cys Thr Gln Gln Ala Glu Cys Ser
305 310 315 320

Ala Lys Arg Arg His Leu Glu Thr Pro Asn Glu Lys Ser Thr Leu Ala
325 330 335

Glu Arg Gln Asn Ala Ser Phe Ser Gln Pro Thr Lys Thr Glu Asp Leu
340 345 350

Leu Leu Thr Gln His Ile Asp Met Ser Gln Thr Asn Ser Asn Leu Leu
355 360 365

Gln Arg Met Val Cys Arg Met Thr Arg Phe Cys Val Val Thr Asp Ile
370 375 380

Arg Ser Thr Tyr Gln Lys Val Ala Arg Ala Ser Glu His Ala Gly Phe
385 390 395 400

Gly Leu Arg Glu Thr Asp Asp Tyr Arg Leu Leu Val Thr Trp Arg Glu
405 410 415

Val Ser Met Met Val Ser Leu Tyr Thr Met Gly Asp Ile Pro Asp Lys
420 425 430

Pro Arg Val Met Val Asp Phe Arg Ser Leu Ala Val Thr Glu Ser Ser
435 440 445

Leu Arg Arg Cys Ser Trp Thr Leu Glu Thr Val Cys Met Ser Gly Tyr
450 455 460

Val Pro Thr Glu Thr Thr Gly Ser Pro Ile Leu Asp Met Cys Gln Glu
465 470 475 480

Ile Arg Arg

<210> 10

<211> 496

<212> PRT

<213> Schizosaccharomyces pombe

<400> 10

Met Ala Gln Lys Leu Asp Asn Phe Pro Tyr His Ile Gly Arg Glu Ile
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20 25 30

Lys Ile Tyr Ala Val Lys Phe Val Asn Lys Lys His Ala Thr Ser Cys
35 40 45

Met Asn Ala Gly Val Trp Ala Arg Arg Met Ala Ser Glu Ile Gln Leu
50 55 60

His Lys Leu Cys Asn Gly His Lys Asn Ile Ile His Phe Tyr Asn Thr
65 70 75 80

Ala Glu Asn Pro Gln Trp Arg Trp Val Val Leu Glu Phe Ala Gln Gly
85 90 95

Gly Asp Leu Phe Asp Lys Ile Glu Pro Asp Val Gly Ile Asp Glu Asp
100 105 110

Val Ala Gln Phe Tyr Phe Ala Gln Leu Met Glu Gly Ile Ser Phe Met
115 120 125

His Ser Lys Gly Val Ala His Arg Asp Leu Lys Pro Glu Asn Ile Leu
130 135 140

Leu Asp Tyr Asn Gly Asn Leu Lys Ile Ser Asp Phe Gly Phe Ala Ser
145 150 155 160

Leu Phe Ser Tyr Lys Gly Lys Ser Arg Leu Leu Asn Ser Pro Val Gly
165 170 175

Ser Pro Pro Tyr Ala Ala Pro Glu Ile Thr Gln Gln Tyr Asp Gly Ser
180 185 190

Lys Val Asp Val Trp Ser Cys Gly Ile Ile Leu Phe Ala Leu Leu Leu
195 200 205

Gly Asn Thr Pro Trp Asp Glu Ala Ile Ser Asn Thr Gly Asp Tyr Leu
210 215 220

Leu Tyr Lys Lys Gln Cys Glu Arg Pro Ser Tyr His Pro Trp Asn Leu
225 230 235 240

Leu Ser Pro Gly Ala Tyr Ser Ile Ile Thr Gly Met Leu Arg Ser Asp
245 250 255

Pro Phe Lys Arg Tyr Ser Val Lys His Val Val Gln His Pro Trp Leu
260 265 270

Thr Ser Ser Thr Pro Phe Arg Thr Lys Asn Gly Asn Cys Ala Asp Pro
275 280 285

Val Ala Leu Ala Ser Arg Leu Met Leu Lys Leu Arg Ile Asp Leu Asp
290 295 300

Lys Pro Arg Leu Ala Ser Ser Arg Ala Ser Gln Asn Asp Ser Gly Phe
305 310 315 320

Ser Met Thr Gln Pro Ala Phe Lys Lys Asn Asp Gln Lys Glu Leu Asp
325 330 335

Arg Val Glu Val Tyr Gly Ala Leu Ser Gln Pro Val Gln Leu Asn Lys
340 345 350

Asn Ile Asp Val Thr Glu Ile Leu Glu Lys Asp Pro Ser Leu Ser Gln
355 360 365

Phe Cys Glu Asn Glu Gly Phe Ile Lys Arg Leu Ala Lys Lys Ala Lys
370 375 380

Asn Phe Tyr Glu Ile Cys Pro Pro Glu Arg Leu Thr Arg Phe Tyr Ser
385 390 395 400

Arg Ala Ser Arg Glu Thr Ile Ile Asp His Leu Tyr Asp Ser Leu Arg
405 410 415

Leu Leu Ala Ile Ser Val Thr Met Lys Tyr Val Arg Asn Gln Thr Ile
420 425 430

Leu Tyr Val Asn Leu His Asp Lys Arg Lys Cys Leu Leu Gln Gly Val
435 440 445

Ile Glu Leu Thr Asn Leu Gly His Asn Leu Glu Leu Ile Asn Phe Ile
450 455 460

Lys Arg Asn Gly Asp Pro Leu Glu Trp Arg Lys Phe Phe Lys Asn Val
465 470 475 480

Val Ser Ser Ile Gly Lys Pro Ile Val Leu Thr Asp Val Ser Gln Asn

485

490

495

<210> 11

<211> 186

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

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